

\* NOTE: This is the abstract for BOTH

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TI Electrically conductive coating for microcapillary composite matrices, and their formation  
IN Schwarz, Wolfgang  
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CC 58-2 (Cement, Concrete, and Related Building Materials)  
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	AT 9800403	A	19990915	AT 1998-403	19980309
	CA 2322395	AA	19990916	CA 1999-2322395	19990308
	AU 9928175	A1	19990927	AU 1999-28175	19990308
	AU 748492	B2	20020606		
	EP 1068164	A2	20010117	EP 1999-908656	19990308
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	JP 2002505996	T2	20020226	JP 2000-535601	19990308
	AT 9909129	A	20020915	AT 1999-9129	19990308
	AT 410440	B	20030425		
	AT 224860	E	20021015	AT 1999-908656	19990308
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PRAI	AT 1998-403	A	19980309		
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AB The matrixes are produced by depositing on mortar or **concrete** a paint or coating material contg. .gtoreq.1 of (1) aluminosilicates having general formula  $aM_2O.bAl_2O_3.cSiO_2$  (c/b ratio 1-40, preferably 5-20; a/b ratio 1-25, preferably 5-15; M = Li, Na, K), (2) an aluminohydroxo complexes having general formula  $MxAl(OH)y$  (x = 1-3; y = 4-6; M = Na, K), and (3) Al phosphates, preferably condensed Al phosphates, in combination with addnl. aluminosilicates and water-dispersible org. polymers, to give microcapillary composite matrixes having sp. elec. resistance (measured at the surface) <25, preferably <5 .OMEGA..bul.cm. An elec. conductive paint or coating material, preferably elec. conductive pigments and/or fibers, is applied to the matrix, e.g., **concrete** or mortar. The paint or coating material may contain reactive aluminosilicates, preferably metakaolin, SiO<sub>2</sub> fume, SiO<sub>2</sub> sol, and dispersing agents, thickeners, water-retaining agents, film formers, fillers, and fibrous materials. The coating is resistant to acids and chloride, and extends the service life of porous mineral structures. An elec. conductive coating was prep'd. from (as component A) K silicate soln. (SiO<sub>2</sub> 31.5, K<sub>2</sub>O 14.8%) 59, 50% aq. dispersion of carboxylated butadiene-styrene copolymer 208, Bu glycol ether 2.25, graphite powder 180, and deionized water 80, and (as component B) Na<sub>x</sub>[Al(OH)<sub>3+x</sub>] soln. (Al<sub>2</sub>O<sub>3</sub> 38.6, Na<sub>2</sub>O 54.5%) 5.3 wt. parts. The coating was applied to 1-yr-old mortar in 2 layers to thickness .apprx.300 .mu.m,

and had sp. elec. resistance 0.42 . omEGA. bul. cm.

is corrosion resistant